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## ABSTRACT

A study was conducted in 1980-81 at Santa Ana College (SAC) to collect data on the English communication skills of non-native English speakers and to determine if a relationship existed between these skills and student's educational success. A sample of 22 classes, with an enrollment of at least 50% non-native English speakers and representing a variety of disciplines and instructional methods, was selected. The Nelson-Denny vocabulary and comprehension tests and the Comprehensive English Language Test (CELT) of listening were used to measure English ability. Study findings, based on test scores and grades of 53% of all students enrolled in the sample classes at census week (N=503), included the following: (1) Vietnamese and Spanish were the most commonly spoken non-English languages; (2) overall, fewer A's and more B's, C's, and D's were earned in the sample classes than at SAC as a whole, however, these classes had lower withdrawal rates; (3) Anthropology 101 and Sociology 100 showed significant positive correlations, between test scores and grades, while Chemistry 219, Math 180, and Music 161 showed consistently negative coefficients; (4) as a whole the grades of English and non-native English speakers were comparable; and (5) success rates tended to favor students who had completed English courses. The study report discusses methodology, statistical findings, and limitations and is appended by statistical data tables. (KL)

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A STUDY OF NON-NATIVE SPEAKERS ACADEMIC PERFORMANCE

SANTA ANA COLLEGE

# INSTITUTIONAL RESEARCH

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*A Study of  
Non-Native English Speakers'  
Academic Performance  
at  
Santa Ana College*

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Institutional Research Office  
Harold Bateman, Dean of Research  
August 1981*

## INTRODUCTION

With the increase in the number of non-native English speakers enrolled at Santa Ana College, impacts on college programs have become evident.

Concern has mounted regarding the ability of non-native speakers to succeed in community college courses. Consequently, a task force was established in 1980-81 "to insure that the non-native speaker student population be given every opportunity to benefit from instruction." To aid them in this pursuit, the task force requested information from the Institutional Research Office.

Specifically, a study was designed to collect data about the English communication skills of this group of students and to determine if a relationship exists between those skills and their educational success.

## METHOD

The task force selected a sample of 22 Spring 1981 classes to study. Classes were selected by the following criteria: 1) enrollment included at least 50% non-native speakers, 2) classes represented a variety of disciplines, and 3) classes represented various teaching methods and learning modes.

For the purposes of this study, educational success is defined by students' final class grades. The primary instruments used to measure English ability were the Nelson-Denny vocabulary and comprehension tests and the Comprehensive English Language Test (CELT) of listening, selected by the task force. Additionally, relevant student background information including previous CELT scores and English classes completed was collected.

The English tests were administered to the students in each of the 22 classes during the thirteenth week of the semester. (Student participation was voluntary and anonymous.) Native language was identified at the time tests were taken. Descriptive and bivariate correlation analyses were then performed.

## FINDINGS

Tables 1 through 5 describe the sample students and classes, and tables 6 through 8 present relationships between students' grades and communication skills.

The number of students enrolled in each class at census week and at the end of the semester, and the number of students who completed the English tests are shown in Table 1. Fifty-three percent, or 503, of all students enrolled in sample classes at census week voluntarily completed the tests. The range of participation by class was 21% to 89%; therefore, correlation coefficients for some classes will be more valid than for others.

The distributions of native languages of students who completed the English tests are shown in Table 2. Vietnamese is the most common non-native language and Spanish second most common. The percentage of native English speakers in about one third of the classes is over 50%; because of sample selection criteria, this suggests that a larger percentage of non-natives either dropped the class before the thirteenth week, or did not take the English tests.

Table 3 provides distributions of students' previous CELT scores, where available. Some scores may, however, be out of date; they are provided for information, to describe students, and to help determine if students have been properly placed according to the school's prerequisites policies.

The distribution of students' grades by class is shown in Table 4. It can be seen that, overall, fewer A's and more B's, C's, and D's were earned than by all students at SAC. However, a lower overall drop rate for these classes heavily populated by non-native speakers is evident (although the range is large).

Table 5 provides average English test scores by class as well as the ranges of scores within classes. The range of scores between and within classes is great. Presumably, by the time a student enrolls in courses such as, say, Chem 219 he has completed college courses which may have imparted some English ability. Conversely, a Mach 058 student may have no prior college experience.

Spearman's rho correlation coefficients\* were computed on six variable pairs per class to determine relationships between grades and each of four English test scores, grades and previous CELT scores, and grades and English courses completed; and those coefficients are shown in Table 6. Included in the analysis were students who completed the course with A through F grades. An asterisk on the table indicates that a coefficient represents a statistically significant relationship at the  $\leq .05$  level. Of the six variable pairs analyzed for each of 22 courses, the following significance pattern emerged:

| Correlation of grade with: | Courses where significant correlation exists |     |
|----------------------------|--|-----|
|                            | <i>n</i>                                     | %   |
| Listening test score       | 9 (1 negative)                               | 41% |
| Vocabulary test score      | 6  | 27  |
| Comprehension test score   | 8  | 36  |
| Total Nelson-Denny score   | 4  | 18  |
| Previous CELT scores       | 1  | 5   |
| English courses completed  | 4 (1 negative)                               | 18  |

Of the six variable pairs, Anth 101 and Soc 100 (B) courses most often showed significant, positive correlation. That is, as English test scores increase, so do success rates. While not always significant, it is interesting to note consistently negative coefficients for Chem 219, Math 180, and Music 161. (The native language distribution of these classes - see Table 2 - is varied.)

\*A positively signed coefficient means that the variables tend to increase or decrease together, and a negatively signed coefficient means that an inverse relationship exists between sets of variables.

As coefficients approach  $\pm 1$ , amount of relationship between variables increases; a coefficient of zero represents no correlation.

A significance level of  $\leq .05$  indicates that this relationship would exist by chance in only 5, or less, out of 100 cases.

To compute Spearman Rank-order correlation coefficients, each variable score is assigned a ranking score. Coefficients were computed by class, independent of other classes' scores, and test score ranges vary from class to class. Consequently, relationships between classes' coefficients for English test scores cannot be assumed. Table 5, showing average test scores by class, is an important resource, therefore, in interpreting Spearman's rho's.

Table 7 provides the percent distribution of students' final grades for each class by native language. Again, statistically significant differences in distributions, measured by Chi square and Fisher's exact tests, are indicated by asterisks. Significant differences are found in three classes, Eng 040, Anth 101(L) and Eng 107 (M). Non-native speakers do not generally receive lower grades than natives, according to this table.

A further goal of the study was to compare the success of non-native students who have completed English courses with those who have not, and those results are shown in Table 8. Successful and non-successful completion rates for non-natives who were enrolled at census week and who completed the English tests are provided. (Successful completion = A, B, C, & CR grades. Non-successful completion = D, F, W, & NCR.) While differences in distributions existed, usually favoring success rates for those who completed English classes, statistical significance was found in only one case, Eng 105.

#### LIMITATIONS

The limitations of studies which attempt to correlate grades with other skills or factors are outstanding. Several such studies have been completed recently in regard to English ability, and results have varied. It is important to note that correlation does not imply causation, only degree and direction of relationship. In the case of grades, numerous variables, such as aptitude, intelligence, motivation, and teachers' grading practices, to name a few, clutter the correlation and causation picture further. Instruments used to measure communication ability also affect results.

A limitation unique and important to this study is the fact that the English tests were not administered until the thirteenth week of the semester, making it impossible to measure the English communication skills of those who dropped the course prior to that time. And statistics show that many non-natives did drop out. Many could have dropped due to poor communication skills and resultant academic performance, leaving a group biased in achievers.



## CONCLUSIONS

Significant relationships were found for 32 of 132, or 24%, correlation coefficients computed on grades and English ability. The validity of those found for the two Anth 101 courses must be qualified because less than 50% of their active students completed the English tests. Those found for Soc 100 (B) appear valid and consistent; however, fewer than 25% non-natives took the English tests and were included in the analyses. Findings of significant positive coefficients for Mach 058 are supported by grade distributions by native language, and program planners should be alerted to this.

While not always statistically significant, grade distributions by native language and class sometimes favor natives and sometimes non-natives. Non-natives excel noticeably in Chem 219, Math 180, and Mus 161. Language does not seem to be a barrier to success in those classes, as supported by bivariate analysis.

In regard to students who have completed English classes and those who have not, the former group has a slight edge, overall, on success rates. However, results on this are not conclusive due to lack of statistical significance and variance.

Finally, the results of this study imply that, in most areas, further study is required to investigate the suggestions of these findings. In many cases, however, the findings have confirmed what has heretofore been suspected or known intuitively by involved faculty. The empirical descriptive information provided is the first of its kind at Santa Ana College and will be helpful to decision-makers.

The following two recommendations emerge from the study's findings:

- 1) Further study using the present one as groundwork, by the Research Office and Task Force, should be conducted beginning Fall 1981.
- 2) Enrollment in English classes for non-natives should be encouraged and the effects further studied.



Table 1  
Number and Percent of Students Who  
Took English Test  
by Class

| Class        | Total enrolled<br>at census | #who did not<br>take test |             | #who took<br>test |             | # students active<br>at end of the<br>semester |
|--------------|-----------------------------|---------------------------|-------------|-------------------|-------------|--|
|              |                             | n                         | %           | n                 | %           |  |
| Acct. 010    | 42                          | 33                        | 78.6        | 9                 | 21.4        | 32   |
| Anth 101 (H) | 47                          | 24                        | 51.1        | 23                | 48.9        | 40   |
| Anth 101 (L) | 34                          | 20                        | 58.8        | 14                | 41.2        | 25   |
| Atme 039     | 28                          | 9                         | 32.1        | 19                | 67.9        | 23   |
| Chem 219     | 83                          | 45                        | 54.2        | 38                | 45.8        | 41   |
| Compr 109    | 63                          | 40                        | 63.5        | 23                | 36.5        | 42   |
| Elec 146     | 67                          | 40                        | 59.7        | 27                | 40.3        | 47   |
| Eng 040      | 45                          | 12                        | 26.7        | 33                | 73.3        | 36   |
| Eng 054      | 29                          | 17                        | 58.6        | 12                | 41.4        | 10   |
| Eng 056      | 32                          | 13                        | 40.6        | 19                | 59.4        | 26   |
| Eng 105 (S)  | 38                          | 4                         | 10.5        | 34                | 89.5        | 36   |
| Eng 105      | 37                          | 11                        | 29.7        | 26                | 70.3        | 31   |
| Eng 107 (M)  | 42                          | 11                        | 26.2        | 31                | 73.8        | 41   |
| Eng 107 (H)  | 33                          | 11                        | 33.3        | 22                | 66.7        | 23   |
| Eng 109      | 25                          | 4                         | 16.0        | 21                | 84.0        | 21   |
| Mach 058     | 29                          | 10                        | 34.5        | 19                | 65.5        | 24   |
| Math 180     | 55                          | 23                        | 41.8        | 32                | 58.2        | 23   |
| Mus 161      | 18                          | 13                        | 72.2        | 5                 | 27.8        | 6  |
| Phys 219     | 74                          | 37                        | 50.0        | 37                | 50.0        | 38   |
| Sec 080      | 47                          | 29                        | 61.7        | 18                | 38.3        | 29   |
| Soc 100 (B)  | 30                          | 9                         | 30.0        | 21                | 70.0        | 23   |
| Soc 100 (H)  | 48                          | 28                        | 58.3        | 20                | 41.7        | 34   |
| <b>TOTAL</b> | <b>946</b>                  | <b>443</b>                | <b>46.8</b> | <b>503</b>        | <b>53.2</b> | <b>661</b>                                     |

Table 2

Distribution of Native Languages of Students Who Took English Test by Class  
percents

| Class        | English | Vietnamese | Spanish | Other <sup>1</sup> | Total<br>n |
|--------------|---------|------------|---------|--------------------|------------|
| Acct 010     | 66.6    | 0          | 22.2    | 11.1               | 9          |
| Anth 101 (H) | 40.0    | 55.0       | 5.0     | 0                  | 20         |
| Anth 101 (L) | 60.0    | 0          | 16.6    | 16.6               | 12         |
| Atme 039     | 33.3    | 38.8       | 27.7    | 0                  | 18         |
| Chem 219     | 47.3    | 21.0       | 15.7    | 15.7               | 38         |
| Compr 109    | 39.1    | 43.4       | 4.3     | 13.0               | 23         |
| Elec 146     | 29.6    | 70.3       | 0       | 0                  | 27         |
| Eng 040      | 0       | 42.4       | 45.4    | 12.1               | 33         |
| Eng 054      | 75.0    | 16.6       | 0       | 8.3                | 12         |
| Eng 056      | 57.1    | 14.2       | 28.5    | 0                  | 14         |
| Eng 105 (S)  | 0       | 96.4       | 0       | 3.5                | 28         |
| Eng 105      | 0       | 55.5       | 29.6    | 14.8               | 27         |
| Eng 107 (M)  | 0       | 66.6       | 16.6    | 16.6               | 30         |
| Eng 107 (H)  | 0       | 68.1       | 18.1    | 13.6               | 22         |
| Eng 109      | 4.7     | 28.5       | 28.5    | 38.0               | 21         |
| Mach 058     | 21.0    | 47.3       | 21.0    | 10.5               | 19         |
| Math 180     | 51.6    | 35.4       | 6.4     | 6.4                | 31         |
| Mus 161      | 20.0    | 80.0       | 0       | 0                  | 5          |
| Phys 219     | 13.8    | 63.8       | 0       | 22.2               | 36         |
| Sec 080      | 31.2    | 37.5       | 12.5    | 18.7               | 16         |
| Soc 100 (B)  | 78.9    | 5.2        | 0       | 15.7               | 19         |
| Soc 100 (S)  | 65.0    | 35.0       | 0       | 0                  | 20         |

<sup>1</sup> "Other" includes: Chinese, Korean, Portuguese, Swahili, Turkic, Arabic, Laotian, French, Tagalog, Hindi, Lebanese, Samoan, Japanese, Ghanaian, Greek, Cambodian, Farsi, Filipino.

Table 3  
Distribution of CELT Scores by class  
percents

| Class        | Celt Score |         |         |         |          | Total<br>n |
|--------------|------------|---------|---------|---------|----------|------------|
|              | 0-29 %     | 30-44 % | 45-59 % | 60-74 % | 75-100 % |            |
| Acct 010     | 50.0%      | 0%      | 50.0%   | 0%      | 0%       | 2          |
| Anth 101 (H) | 25.0       | 50.0    | 16.7    | 0       | 8.3      | 12         |
| Anth 101 (L) | 0          | 0       | 0       | 0       | 100.0    | 1          |
| Atme 039     | 50.0       | 50.0    | 0       | 0       | 0        | 6          |
| Chem 219     | 0          | 38.5    | 38.5    | 15.4    | 7.7      | 13         |
| Compr 109    | 7.1        | 14.3    | 28.6    | 28.6    | 21.4     | 14         |
| Elec 146     | 17.9       | 53.6    | 17.9    | 10.7    | 0        | 28         |
| Eng 040      | 20.8       | 66.7    | 12.5    | 0       | 0        | 24         |
| Eng 054      | 0          | 100.0   | 0       | 0       | 0        | 2          |
| Eng 056      | 0          | 50.0    | 0       | 0       | 50.0     | 2          |
| Eng 105 (S)  | 8.3        | 45.8    | 41.7    | 4.2     | 0        | 24         |
| Eng 105      | 5.0        | 40.0    | 55.0    | 0       | 0        | 20         |
| Eng 107 (M)  | 3.4        | 34.5    | 41.4    | 17.2    | 3.4      | 29         |
| Eng 107 (H)  | 9.5        | 42.9    | 28.6    | 29.0    | 0        | 21         |
| Eng 109      | 20.0       | 20.0    | 30.0    | 30.0    | 0        | 10         |
| Mach 058     | 40.0       | 20.0    | 20.0    | 20.0    | 0        | 5          |
| Math 180     | 6.7        | 60.0    | 33.3    | 0       | 0        | 15         |
| Mus 161      | 0          | 100.0   | 0       | 0       | 0        | 3          |
| Phys 219     | 5.6        | 33.3    | 55.6    | 5.6     | 0        | 18         |
| Sec 080      | 40.0       | 40.0    | 20.0    | 0       | 0        | 5          |
| Soc 100 (H)  | 9.1        | 27.3    | 36.4    | 27.3    | 0        | 11         |
| TOTAL        | 12.5       | 43.0    | 31.3    | 10.2    | 3.0      | 265        |

Table 4

Distribution of Final Grades of All Students Enrolled at Census by Class  
percents

| Class         | A     | B     | C    | D    | F    | W     | I     | CR   | Total<br>n |
|---------------|-------|-------|------|------|------|-------|-------|------|------------|
| Acct 010      | 21.4% | 31.0% | 9.5% | 0    | 0    | 23.8% | 14.3% | 0    | 42         |
| Anth 101 (H)  | 19.1  | 21.2  | 34.0 | 2.1  | 0    | 14.9  | 0     | 8.5  | 47         |
| Anth 101 (L)  | 17.6  | 29.4  | 26.5 | 0    | 0    | 26.5  | 0     | 0    | 34         |
| Atme 039      | 17.9  | 17.9  | 46.4 | 0    | 0    | 17.9  | 0     | 0    | 28         |
| Chem 219      | 6.0   | 18.1  | 16.9 | 8.4  | 0    | 50.6  | 0     | 0    | 83         |
| Compr 109     | 30.2  | 15.9  | 14.3 | 6.3  | 0    | 33.3  | 0     | 0    | 63         |
| Elec 146      | 13.4  | 28.4  | 14.9 | 4.5  | 9.0  | 29.9  | 0     | 0    | 67         |
| Eng 040       | 8.9   | 37.8  | 17.8 | 11.1 | 2.2  | 20.0  | 2.2   | 0    | 45         |
| Eng 054       | 13.8  | 3.4   | 17.2 | 0    | 0    | 65.5  | 0     | 0    | 29         |
| Eng 056       | 3.1   | 25.0  | 46.9 | 6.3  | 0    | 18.8  | 0     | 0    | 32         |
| Eng 105 (S)   | 21.1  | 34.2  | 28.9 | 7.9  | 2.6  | 5.3   | 0     | 0    | 38         |
| Eng 105       | 0     | 21.6  | 45.9 | 13.5 | 2.7  | 16.2  | 0     | 0    | 37         |
| Eng 107 (M)   | 9.5   | 66.7  | 21.4 | 0    | 0    | 2.4   | 0     | 0    | 42         |
| Eng 107 (H)   | 6.1   | 21.1  | 24.2 | 3.0  | 3.0  | 30.3  | 0     | 12.1 | 33         |
| Eng 109       | 24.2  | 24.0  | 32.0 | 4.0  | 0    | 16.0  | 0     | 0    | 25         |
| Mach 058      | 10.3  | 6.9   | 24.1 | 27.6 | 13.8 | 17.2  | 0     | 0    | 29         |
| Math 180      | 12.7  | 10.9  | 30.9 | 7.3  | 0    | 38.2  | 0     | 0    | 55         |
| Mus 161       | 16.7  | 16.7  | 0    | 0    | 0    | 66.7  | 0     | 0    | 18         |
| Phys 219      | 5.4   | 21.6  | 21.6 | 0    | 0    | 48.6  | 0     | 2.7  | 74         |
| Sec 080       | 17.0  | 27.7  | 0    | 2.1  | 0    | 38.3  | 14.9  | 0    | 47         |
| Soc 100 (B)   | 6.7   | 26.7  | 36.7 | 6.7  | 0    | 23.3  | 0     | 0    | 30         |
| Soc 100 (H)   | 6.3   | 20.8  | 39.6 | 2.1  | 0    | 29.2  | 0     | 2.1  | 48         |
| TOTAL         | 12.8  | 24.1  | 23.9 | 5.1  | 1.5  | 30.0  | 1.5   | 1.2  | 946        |
| TOTAL COLLEGE | 18    | 15    | 11   | 2    | 1    | 36    | 1     | 11   | 52,211     |

Table 5  
Average English Test Scores  
(Administered Thirteenth Week)  
By Class

| Class               | Listen.<br>CELT | Test         |               | Total |
|---------------------|-----------------|--------------|---------------|-------|
|                     |                 | Vocabulary   | Comprehension |       |
|                     |                 | Nelson-Denny |               |       |
| <u>Acct 010</u>     |                 |              |               |       |
| Mean                | 83.1            | 10.0         | 8.7           | 9.7   |
| Minimum             | 40.0            | 0            | 0             | 0     |
| Maximum             | 100.0           | 14.0         | 13.8          | 14.0  |
| <u>Anth 101 (H)</u> |                 |              |               |       |
| Mean                | 74.1            | 10.4         | 9.6           | 9.4   |
| Minimum             | 24.0            | 7.0          | 0             | 0     |
| Maximum             | 99.0            | 14.0         | 13.8          | 14.0  |
| <u>Anth 101 (L)</u> |                 |              |               |       |
| Mean                | 93.4            | 12.7         | 11.1          | 12.2  |
| Minimum             | 62.0            | 10.4         | 0             | 8.4   |
| Maximum             | 100.0           | 14.0         | 13.8          | 14.0  |
| <u>Atme 039</u>     |                 |              |               |       |
| Mean                | 65.7            | 8.2          | 5.9           | 6.5   |
| Minimum             | 8.0             | 0            | 0             | 0     |
| Maximum             | 96.0            | 13.7         | 13.8          | 13.8  |
| <u>Chem 219</u>     |                 |              |               |       |
| Mean                | 87.5            | 10.3         | 10.3          | 10.5  |
| Minimum             | 44.0            | 0            | 0             | 0     |
| Maximum             | 100.0           | 14.0         | 13.8          | 14.0  |
| <u>Compr 109</u>    |                 |              |               |       |
| Mean                | 80.0            | 10.6         | 10.3          | 10.1  |
| Minimum             | 32.0            | 7.3          | 7.0           | 0     |
| Maximum             | 100.0           | 14.0         | 13.8          | 14.0  |
| <u>Elec 146</u>     |                 |              |               |       |
| Mean                | 53.6            | 6.1          | 7.1           | 6.5   |
| Minimum             | 16.0            | 0            | 0             | 0     |
| Maximum             | 100.0           | 14.0         | 13.8          | 14.0  |
| <u>Eng 040</u>      |                 |              |               |       |
| Mean                | 41.3            | 6.4          | 2.8           | 3.8   |
| Minimum             | 16.0            | 0            | 0             | 0     |
| Maximum             | 68.0            | 10.7         | 9.8           | 8.9   |
| <u>Eng 054</u>      |                 |              |               |       |
| Mean                | 82.7            | 11.2         | 9.4           | 9.8   |
| Minimum             | 36.0            | 7.0          | 0             | 0     |
| Maximum             | 100.0           | 14.0         | 13.8          | 14.0  |
| <u>Eng 056</u>      |                 |              |               |       |
| Mean                | 86.1            | 9.6          | 8.6           | 9.1   |
| Minimum             | 44.0            | 0            | 0             | 0     |
| Maximum             | 100.0           | 13.1         | 13.5          | 13.2  |
| <u>Eng 105 (S)</u>  |                 |              |               |       |
| Mean                | 51.3            | 6.4          | 6.9           | 6.2   |
| Minimum             | 32.0            | 0            | 0             | 0     |
| Maximum             | 76.0            | 11.9         | 11.1          | 11.3  |

Table 5 (Cont'd)

| Class              | Listen.<br>CELT | Test         |               | Total |
|--------------------|-----------------|--------------|---------------|-------|
|                    |                 | Vocabulary   | Comprehension |       |
|                    |                 | Nelson-Denny |               |       |
| <u>Eng. 105</u>    |                 |              |               |       |
| Mean               | 47.0            | 5.9          | 4.5           | 4.6   |
| Minimum            | 24.0            | 0            | 0             | 0     |
| Maximum            | 96.0            | 11.6         | 10.7          | 9.7   |
| <u>Eng 107 (M)</u> |                 |              |               |       |
| Mean               | 59.7            | 7.5          | 4.1           | 4.7   |
| Minimum            | 0               | 0            | 0             | 0     |
| Maximum            | 88.0            | 12.2         | 11.9          | 12.1  |
| <u>Eng 107 (H)</u> |                 |              |               |       |
| Mean               | 64.2            | 7.4          | 4.7           | 6.4   |
| Minimum            | 28.0            | 0            | 0             | 0     |
| Maximum            | 88.0            | 13.1         | 13.8          | 14.0  |
| <u>Eng 109</u>     |                 |              |               |       |
| Mean               | 80.6            | 9.4          | 7.5           | 8.4   |
| Minimum            | 52.0            | 7.3          | 0             | 0     |
| Maximum            | 100.0           | 12.9         | 10.7          | 11.6  |
| <u>Mach 058</u>    |                 |              |               |       |
| Mean               | 52.5            | 8.5          | 6.1           | 6.9   |
| Minimum            | 12.0            | 0            | 0             | 0     |
| Maximum            | 96.0            | 14.0         | 13.8          | 14.0  |
| <u>Math 180</u>    |                 |              |               |       |
| Mean               | 80.9            | 10.4         | 9.4           | 10.2  |
| Minimum            | 44.0            | 7.0          | 0             | 7.0   |
| Maximum            | 100.0           | 14.0         | 13.8          | 14.0  |
| <u>Mus 161</u>     |                 |              |               |       |
| Mean               | 69.6            | 8.8          | 7.9           | 7.5   |
| Minimum            | 40.0            | 7.0          | 0             | 0     |
| Maximum            | 100.0           | 13.5         | 13.5          | 13.6  |
| <u>Phys 219</u>    |                 |              |               |       |
| Mean               | 71.2            | 8.1          | 8.3           | 8.3   |
| Minimum            | 36.0            | 0            | 0             | 0     |
| Maximum            | 96.0            | 14.0         | 13.8          | 14.0  |
| <u>Sec 080</u>     |                 |              |               |       |
| Mean               | 64.3            | 8.7          | 6.2           | 7.4   |
| Minimum            | 24.0            | 0            | 0             | 0     |
| Maximum            | 100.0           | 14.0         | 13.1          | 13.1  |
| <u>Soc 100 (B)</u> |                 |              |               |       |
| Mean               | 93.2            | 12.4         | 11.5          | 12.2  |
| Minimum            | 72.0            | 8.3          | 0             | 8.3   |
| Maximum            | 100.0           | 14.0         | 13.8          | 14.0  |
| <u>Soc 100 (H)</u> |                 |              |               |       |
| Mean               | 77.7            | 9.7          | 9.1           | 9.4   |
| Minimum            | 28.0            | 0            | 0             | 0     |
| Maximum            | 96.0            | 13.9         | 13.8          | 14.0  |

Table 6

Correlation Coefficients of Grades with English Test Scores  
CELST Scores, & English Class Completed

by Class<sup>1</sup>

| Class        | Test Score              |                               |                |              |                   | GELT  |            | English class |            |
|--------------|-------------------------|-------------------------------|----------------|--------------|-------------------|-------|------------|---------------|------------|
|              | <u>Listen.</u><br>CELST | <u>Vocab.</u><br>Nelson-Denny | <u>Compre.</u> | <u>Total</u> | <u>#</u><br>pairs | Score | #<br>pairs | class         | #<br>pairs |
| Acct 010     | .552                    | .660*                         | .275           | .403         | 9                 | -     |            | .386          | 7          |
| Anth 101 (H) | .532*                   | .507*                         | .490*          | .490*        | 21                | -.443 | 8          | .307          | 20         |
| Anth 101 (L) | .418                    | .755*                         | .560*          | .560*        | 14                | -     |            | .560*         | 9          |
| Atme 039     | .201                    | .087                          | .222           | .157         | 18                | -.270 | 6          | .182          | 8          |
| Chem 219     | -.297*                  | -.228                         | -.130          | -.187        | 31                | .115  | 9          | -.408*        | 20         |
| Compr 109    | .394                    | .396                          | .314           | .241         | 21                | .186  | 13         | -.073         | 15         |
| Elec 146     | .401*                   | .107                          | .318*          | .294         | 27                | .120  | 22         | .072          | 11         |
| Eng 040      | .453*                   | -.114                         | .439*          | .066         | 29                | .429* | 18         | .340          | 5          |
| Eng 054      | .805*                   | .581*                         | .604*          | .517         | 10                | -     |            | -             |            |
| Eng 056      | -.044                   | .226                          | .499*          | .388*        | 19                | -     |            | .316          | 4          |
| Eng 105 (S)  | .640*                   | .065                          | .138           | .000         | 34                | .076  | 23         | -.219         | 17         |
| Eng 105      | .525*                   | .029                          | .140           | .152         | 26                | .489  | 19         | -             |            |
| Eng 107 (M)  | .119                    | .175                          | .038           | .234         | 30                | .089  | 28         | .349          | 33         |
| Eng 107 (H)  | .499*                   | .032                          | .380           | .316         | 15                | .060  | 11         | .185          | 17         |
| Eng 109      | .114                    | -.049                         | .335           | .183         | 19                | 0     | 7          | -.046         | 12         |
| Mach 058     | .387                    | .740*                         | .661*          | .791         | 17                | .500  | 3          | 1.            | 2          |
| Math 180     | -.035                   | -.158                         | -.036          | -.074        | 28                | .373  | 11         | -.045         | 13         |
| Mus 161      | -.578                   | -.296                         | -.577          | -.577        | 5                 | -     |            | -             |            |
| Phys 219     | .058                    | .102                          | .155           | .154         | 31                | .154  | 11         | .126          | 18         |
| Sec 080      | .571                    | .240                          | .647           | .437         | 15                | .775  | 4          | .083          | 7          |
| Soc 100 (B)  | .424*                   | .404*                         | .512*          | .590*        | 21                | -     |            | .789*         | 6          |
| Soc 100 (H)  | .185                    | -.181                         | -.224          | -.311        | 19                | .274  | 8          | .562*         | 11         |

<sup>1</sup> Spearmans rho correlations computed on students who completed class with a letter grade and who had test scores. Number of pairs for each case is indicated.

\*Significant at  $\leq .05$  level.



Table 7  
Distribution of Final Grades of Students Who Took Test by Class and Native Language  
percents

| Class/language       | n  | Grade |      |       |       |      |     |      |      |
|----------------------|----|-------|------|-------|-------|------|-----|------|------|
|                      |    | A     | B    | C     | D     | F    | CR  | W    | I    |
| <u>Acct 101</u>      |    |       |      |       |       |      |     |      |      |
| English              | 6  | 33.3  | 66.7 |       |       |      |     |      |      |
| Vietnamese           | 0  |       |      |       |       |      |     |      |      |
| Spanish              | 2  | 50.0  |      | 50.0  |       |      |     |      |      |
| Other                | 1  | 100.0 |      |       |       |      |     |      |      |
| <u>Anth 101 (H)</u>  |    |       |      |       |       |      |     |      |      |
| English              | 8  | 50.0  | 25.0 | 25.0  |       |      |     |      |      |
| Vietnamese           | 11 | 9.1   | 27.3 | 45.5  | 9.1   |      | 9.1 |      |      |
| Spanish              | 1  | 100.0 |      |       |       |      |     |      |      |
| Other                | 0  |       |      |       |       |      |     |      |      |
| <u>Anth 101 (L)*</u> |    |       |      |       |       |      |     |      |      |
| English              | 8  | 37.5  | 50.0 | 12.5  |       |      |     |      |      |
| Vietnamese           | 0  |       |      |       |       |      |     |      |      |
| Spanish              | 2  | 100.0 |      |       |       |      |     |      |      |
| Other                | 2  |       |      | 100.0 |       |      |     |      |      |
| <u>Atme 039</u>      |    |       |      |       |       |      |     |      |      |
| English              | 6  | 33.3  |      | 66.7  |       |      |     |      |      |
| Vietnamese           | 7  | 14.3  | 28.6 | 57.1  |       |      |     |      |      |
| Spanish              | 5  | 40.0  | 40.0 | 20.0  |       |      |     |      |      |
| Other                | 0  |       |      |       |       |      |     |      |      |
| <u>Chem 219</u>      |    |       |      |       |       |      |     |      |      |
| English              | 18 | 5.6   | 22.2 | 27.8  | 16.7  |      |     | 27.8 |      |
| Vietnamese           | 8  | 25.0  | 62.5 |       |       |      |     | 12.5 |      |
| Spanish              | 6  |       | 16.7 | 33.3  | 33.3  |      |     | 16.7 |      |
| Other                | 6  | 33.3  | 50.0 | 16.7  |       |      |     |      |      |
| <u>Compr 109</u>     |    |       |      |       |       |      |     |      |      |
| English              | 9  | 44.4  | 22.2 | 22.2  |       |      |     | 11.1 |      |
| Vietnamese           | 10 | 10.0  | 40.0 | 30.0  | 10.0  |      |     | 10.0 |      |
| Spanish              | 1  |       |      |       | 100.0 |      |     |      |      |
| Other                | 3  | 66.6  |      | 33.3  |       |      |     |      |      |
| <u>Elec 146</u>      |    |       |      |       |       |      |     |      |      |
| English              | 8  | 37.5  | 37.5 | 12.5  |       | 12.5 |     |      |      |
| Vietnamese           | 19 | 21.1  | 47.4 | 26.3  | 5.3   | 0    |     |      |      |
| Spanish              | 0  |       |      |       |       |      |     |      |      |
| Other                | 0  |       |      |       |       |      |     |      |      |
| <u>Engl 040*</u>     |    |       |      |       |       |      |     |      |      |
| English              | 0  |       |      |       |       |      |     |      |      |
| Vietnamese           | 14 | 14.3  | 64.3 |       | 14.3  |      |     | 7.1  |      |
| Spanish              | 15 | 6.7   | 26.7 | 33.3  | 13.3  | 6.7  |     | 13.3 |      |
| Other                | 4  | 25.0  | 50.0 |       |       |      |     |      | 25.0 |
| <u>Engl 054</u>      |    |       |      |       |       |      |     |      |      |
| English              | 9  | 44.4  | 11.1 | 22.2  |       |      |     | 22.2 |      |
| Vietnamese           | 2  |       |      | 100.0 |       |      |     |      |      |
| Spanish              | 0  |       |      |       |       |      |     |      |      |
| Other                | 1  |       |      | 100.0 |       |      |     |      |      |
| <u>Engl 056</u>      |    |       |      |       |       |      |     |      |      |
| English              | 8  |       | 50.0 | 37.5  | 12.5  |      |     |      |      |
| Vietnamese           | 2  |       |      | 100.0 |       |      |     |      |      |
| Spanish              | 4  |       | 25.0 | 75.0  |       |      |     |      |      |
| Other                | 0  |       |      |       |       |      |     |      |      |
| <u>Engl 105 (S)</u>  |    |       |      |       |       |      |     |      |      |
| English              | 0  |       |      |       |       |      |     |      |      |
| Vietnamese           | 27 | 25.9  | 33.3 | 25.9  | 11.1  | 3.7  |     |      |      |
| Spanish              | 0  |       |      |       |       |      |     |      |      |
| Others               | 1  |       |      | 100.0 |       |      |     |      |      |
| <u>Engl 105</u>      |    |       |      |       |       |      |     |      |      |
| English              | 0  |       |      |       |       |      |     |      |      |
| Vietnamese           | 15 |       | 13.3 | 73.3  | 13.3  |      |     |      |      |
| Spanish              | 8  |       | 50.0 | 25.0  | 12.5  | 12.5 |     |      |      |
| Other                | 4  |       | 25.0 | 25.0  | 50.0  |      |     |      |      |

Table 7(Cont'd)

percents

| Class/language       | n  | A     | B     | C     | Grade D | F    | CR   | W    | I    |
|----------------------|----|-------|-------|-------|---------|------|------|------|------|
| <u>Engl 107</u> (M)* |    |       |       |       |         |      |      |      |      |
| English              | 0  |       |       |       |         |      |      |      |      |
| Vietnamese           | 20 | 15.0  | 65.0  | 15.0  |         |      |      | 5.0  |      |
| Spanish              | 5  |       | 60.0  | 40.0  |         |      |      |      |      |
| Other                | 5  |       | 100.0 |       |         |      |      |      |      |
| <u>Engl 107</u> (B)  |    |       |       |       |         |      |      |      |      |
| English              | 0  |       |       |       |         |      |      |      |      |
| Vietnamese           | 15 | 6.7   | 33.3  | 13.3  | 6.7     |      | 26.7 | 13.3 |      |
| Spanish              | 4  | 25.0  | 25.0  | 25.0  |         |      |      | 25.0 |      |
| Other                | 3  |       | 33.3  | 66.6  |         |      |      |      |      |
| <u>Engl 109</u>      |    |       |       |       |         |      |      |      |      |
| English              | 1  |       |       | 100.0 |         |      |      |      |      |
| Vietnamese           | 6  | 16.7  | 16.7  | 16.7  | 16.7    |      |      | 33.3 |      |
| Spanish              | 6  | 33.3  | 16.7  | 50.0  |         |      |      |      |      |
| Other                | 6  | 33.3  | 66.6  | 33.3  |         |      |      |      |      |
| <u>Mach 058</u>      |    |       |       |       |         |      |      |      |      |
| English              | 4  | 50.0  | 25.0  |       |         |      |      | 25.0 |      |
| Vietnamese           | 9  |       |       | 44.4  | 33.3    | 22.2 |      | 25.0 |      |
| Spanish              | 4  |       |       | 50.0  | 25.0    |      |      | 25.0 |      |
| Other                | 2  |       |       | 50.0  | 50.0    |      |      |      |      |
| <u>Math 180</u>      |    |       |       |       |         |      |      |      |      |
| English              | 16 | 12.5  | 18.8  | 31.3  | 12.5    |      |      | 25.0 |      |
| Vietnamese           | 11 | 18.2  | 18.2  | 54.5  | 9.1     |      |      |      |      |
| Spanish              | 2  |       |       | 100.0 |         |      |      |      |      |
| Other                | 2  | 100.0 |       |       |         |      |      |      |      |
| <u>Mus 161</u>       |    |       |       |       |         |      |      |      |      |
| English              | 1  |       | 100.0 |       |         |      |      |      |      |
| Vietnamese           | 4  | 75.0  | 25.0  |       |         |      |      |      |      |
| Spanish              | 0  |       |       |       |         |      |      |      |      |
| Other                | 0  |       |       |       |         |      |      |      |      |
| <u>Physics 219</u>   |    |       |       |       |         |      |      |      |      |
| English              | 5  |       | 60.0  | 20.0  |         |      | 20.0 |      |      |
| Vietnamese           | 23 | 13.0  | 39.1  | 39.1  |         |      |      | 8.7  |      |
| Spanish              | 0  |       |       |       |         |      |      |      |      |
| Other                | 8  | 12.4  | 25.0  | 25.0  |         |      |      | 37.5 |      |
| <u>Sec 080</u>       |    |       |       |       |         |      |      |      |      |
| English              | 5  | 40.0  | 40.0  |       |         |      |      |      | 20.0 |
| Vietnamese           | 6  | 16.7  | 83.3  |       |         |      |      |      |      |
| Spanish              | 2  |       |       |       | 50.0    |      |      | 50.0 |      |
| Other                | 3  | 66.6  |       |       |         |      |      |      | 33.3 |
| <u>Soc 100</u> (B)   |    |       |       |       |         |      |      |      |      |
| English              | 15 | 13.3  | 40.0  | 40.0  | 6.7     |      |      |      |      |
| Vietnamese           | 1  |       | 100.0 |       |         |      |      |      |      |
| Spanish              | 0  |       |       |       |         |      |      |      |      |
| Other                | 3  |       | 33.3  | 66.6  |         |      |      |      |      |
| <u>Soc 100</u> (H)   |    |       |       |       |         |      |      |      |      |
| English              | 13 | 15.4  | 23.1  | 53.8  |         |      |      | 7.7  |      |
| Vietnamese           | 7  | 14.3  | 43.9  | 42.9  |         |      |      |      |      |
| Spanish              | 0  |       |       |       |         |      |      |      |      |
| Other                | 0  |       |       |       |         |      |      |      |      |

\* Significant Chi square scores exist at the  $\leq .05$  level.

Table 8

Successful and Non-successful Completion Rates  
For Non-Native Speakers Who Did & Did Not Complete English Classes  
by Class

| Class                   | % received<br>Successful grade | % received<br>Unsuccessful grade | n  |
|-------------------------|--------------------------------|----------------------------------|----|
| <u>Acct 101</u>         |                                |                                  |    |
| Completed English class | 100.0%                         | 0%                               | 2  |
| Did not complete        | 100.0                          | 0                                | 1  |
| <u>Anth 101</u> (H)     |                                |                                  |    |
| Completed English class | 100.0                          | 0                                | 6  |
| Did not complete        | 83.3                           | 16.7                             | 6  |
| <u>Anth 101</u> (L)     |                                |                                  |    |
| Completed English class | 100.0                          | 0                                | 2  |
| Did not complete        | 100.0                          | 0                                | 2  |
| <u>Atme 039</u>         |                                |                                  |    |
| Completed English class | 100.0                          | 0                                | 6  |
| Did not complete        | 100.0                          | 0                                | 6  |
| <u>Chem 219</u>         |                                |                                  |    |
| Completed English class | 84.6                           | 15.4                             | 13 |
| Did not complete        | 71.4                           | 28.6                             | 7  |
| <u>Compr 109</u>        |                                |                                  |    |
| Completed English class | 100.0                          | 0                                | 4  |
| Did not complete        | 70.0                           | 30.0                             | 10 |
| <u>Elec 146</u>         |                                |                                  |    |
| Completed English class | 100.0                          | 0                                | 3  |
| Did not complete        | 93.8                           | 6.3                              | 16 |
| <u>Eng 040</u>          |                                |                                  |    |
| Completed English class | 66.7                           | 33.3                             | 3  |
| Did not complete        | 73.3                           | 26.7                             | 30 |
| <u>Eng 054</u>          |                                |                                  |    |
| Completed English class | 100.0                          | 0                                | 2  |
| Did not complete        | 100.0                          | 0                                | 1  |
| <u>Eng 056</u>          |                                |                                  |    |
| Completed English class | 100.0                          | 0                                | 1  |
| Did not complete        | 100.0                          | 0                                | 5  |
| <u>Eng 105</u> (S)      |                                |                                  |    |
| Completed English class | 100.0                          | 0                                | 12 |
| Did not complete        | 75.0                           | 25.0                             | 16 |
| <u>Eng 105 *</u>        |                                |                                  |    |
| Completed English class | 60.0                           | 40.0                             | 15 |
| Did not complete        | 100.0                          | 0                                | 12 |
| <u>Eng 107</u> (M)      |                                |                                  |    |
| Completed English class | 96.3                           | 3.7                              | 27 |
| Did not complete        | 100.0                          | 0                                | 3  |
| <u>Eng 107</u> (H)      |                                |                                  |    |
| Completed English class | 83.3                           | 16.7                             | 18 |
| Did not complete        | 75.0                           | 25.0                             | 4  |

Table 8 (Cont'd)

| Class                   | % received<br>Successful grade | % received<br>Unsuccessful grade | n  |
|-------------------------|--------------------------------|----------------------------------|----|
| <u>Mach 058</u>         |                                |                                  |    |
| Completed English class | 0                              | 100.0                            | 1  |
| Did not complete        | 50.0                           | 50.0                             | 14 |
| <u>Math 180</u>         |                                |                                  |    |
| Completed English class | 100.0                          | 0                                | 8  |
| Did not complete        | 85.7                           | 14.3                             | 7  |
| <u>Music 161</u>        |                                |                                  |    |
| Completed English class | 0                              | 0                                | 0  |
| Did not complete        | 100.0                          | 0                                | 4  |
| <u>Phys 219</u>         |                                |                                  |    |
| Completed English class | 93.3                           | 6.7                              | 15 |
| Did not complete        | 75.0                           | 25.0                             | 16 |
| <u>Sec 080</u>          |                                |                                  |    |
| Completed English class | 100.0                          | 0                                | 5  |
| Did not complete        | 50.0                           | 50.0                             | 6  |
| <u>Soc 100 (B)</u>      |                                |                                  |    |
| Completed English class | 100.0                          | 0                                | 2  |
| Did not complete        | 100.0                          | 0                                | 2  |
| <u>Soc 100 (H)</u>      |                                |                                  |    |
| Completed English class | 100.0                          | 0                                | 4  |
| Did not complete        | 100.0                          | 0                                | 3  |

\*Significant Chi Square or Fisher's exact scores exist at .05 level.

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